

CLAIMS

What is claimed is:

1. A battery device for a portable electronic device, wherein the portable electronic device comprises a body having a first contact protrusion and a second contact protrusion at a side for receiving an external power supply, and a third contact protrusion for receiving a power status; and the battery device having a first contact terminal, a second contact terminal and a third contact terminal for connecting with the first to third contact protrusions of the body to provide the body with the power supply and the power status,

the battery device having the first and the second contact terminals which are longer than the third contact terminal in a first direction and a second direction by first and second predetermined distances, respectively.

2. The battery device for the portable electronic device of claim 1, wherein the first direction is along which the first contact protrusion is connected with the first contact terminal.

3. The battery device for the portable electronic device of claim 2, wherein the second direction is opposite to the first direction in which the first contact protrusion and the first contact terminal are connected with each other.

4. The battery device for the portable electronic device of claim 3, wherein the second contact terminal is shorter than the first contact terminal in the first direction and in the second direction by third and fourth predetermined distances, respectively.

5. The battery device for the portable electronic device of claim 4, wherein the first contact terminal and the second contact terminal are formed wider than the third contact terminal by predetermined width distances.

6. A power source apparatus comprising:
a battery pack having a connector to interface with an electronic device, wherein the connector comprises,

first and second contact terminals to supply power from the battery to the electronic device through corresponding contact protrusions of the electronic device, and a plurality of auxiliary contact terminals to interface with the electronic device through corresponding contact protrusions of the electronic device, wherein the first and second contact terminals have a predetermined contact area that is larger than an area of the plurality of auxiliary contact terminals.

7. The apparatus of claim 6, wherein the first contact terminal has a first predetermined contact area that is larger than a second predetermined contact area of the second contact terminal, and the first and second predetermined contact areas are larger than the area of the plurality of auxiliary contact terminals to maintain communication between the first and second contact terminals and the corresponding contact protrusions until after the plurality of auxiliary contact terminals lose communication during a battery removal process.

8. The apparatus of claim 7, wherein the first contact terminal is longer than the second contact terminal in a direction from a center point of the first contact terminal along a direction of insertion of the battery pack, and the second contact terminal is longer than the plurality of auxiliary contact terminals in a direction from a center point of the second contact terminal along the direction of insertion of the battery pack.

9. The apparatus of claim 7, wherein the first and the second contact terminals have predetermined widths that are larger than a width of the plurality of auxiliary contact terminals in a direction orthogonal to a direction of the battery pack insertion.

10. The apparatus of claim 6, further comprising a first auxiliary contact terminal and a second auxiliary contact terminal; wherein, the first contact terminal, the second contact terminal and the first auxiliary contact terminal and the second auxiliary contact terminal each having different predetermined lengths to control an order of communication with respective contact protrusions during battery pack removal and insertion.

11. The apparatus of claim 6, wherein an end of the electronic device closest to the contact protrusions defines a pivot axis, wherein a near end of the first contact terminal and a near end of the second contact terminal are closer to the pivot axis than a near end of the plurality of auxiliary contact terminals when the battery pack is inserted and removed.

12. The apparatus of claim 11, wherein the near end of the first contact terminal is closer to the pivot axis than the near end of the second contact terminal, which is closer to the pivot axis than the near end of the plurality of auxiliary contact terminals.

13. The apparatus of claim 6, wherein the first power contact terminal supplies negative voltage and the second power contact terminal supplies positive voltage.